

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>M04B107 PCT/ASB</b>	<b>FOR FURTHER ACTION</b>		see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No.  <b>PCT/G32005/000354</b>	International filing date (day/month/year)  <b>02/02/2005</b>	(Earliest) Priority Date (day/month/year)  <b>06/02/2004</b>	
Applicant  <b>THE BOC GROUP PLC</b>			

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box II).

3. ☒ Unity of invention is lacking (see Box III).

4. With regard to the title:

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 3

☐ as suggested by the applicant.

☒ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB2005/000354

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/GB2005/000354

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F04D29/66 F16F15/04 F16L27/11

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F16F F04D F16L H01J F04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages.	Relevant to claim No.
X	US 3 000 389 A (ALSAGER LESLIE E ET AL) 19 September 1961 (1961-09-19) the whole document	1-11, 13, 14, 31
X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 14, 31 December 1998 (1998-12-31) & JP 10 252963 A (TOOFURE KK), 22 September 1998 (1998-09-22) abstract	1, 6-10, 14, 15
A	WO 01/51817 A (LEYBOLD VAKUUM GMBH; ADAMIETZ, RALF; BEYER, CHRISTIAN; ENGLAENDER, HEI) 19 July 2001 (2001-07-19) the whole document	1-31
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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance.
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*S\* document member of the same patent family

Date of the actual completion of the international search

2 June 2005

Date of mailing of the international search report

30.06.05

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB2005/000354

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 971 439 A (CHIK ET AL) 26 October 1999 (1999-10-26) column 7, line 16 - column 10, line 56; figure 1	1
X	GB 1 541 294 A (EROMUE-ES HALOZATTERVEZO VALLALAT) 28 February 1979 (1979-02-28) the whole document	1
A	DE 79 33 066 U1 (INDUSTRIE-WERKE KARLSRUHE AUGSBURG AG, 7500 KARLSRUHE) 21 February 1980 (1980-02-21) the whole document	1
A	US 6 065 780 A (HIROSHIMA ET AL) 23 May 2000 (2000-05-23) figures	1
A	EP 1 270 949 A (BOC EDWARDS TECHNOLOGIES, LIMITED) 2 January 2003 (2003-01-02) figure 2	1
A	WO 02/086325 A (LEYBOLD VAKUUM GMBH; BEYER, CHRISTIAN; HODAPP, JOSEF; ENGLAENDER, HEIN) 31 October 2002 (2002-10-31) abstract	1
A	PATENT ABSTRACTS OF JAPAN vol. 2003, no. 02, 5 February 2003 (2003-02-05) & JP 2002 303294 A (BOC EDWARDS TECHNOLOGIES LTD), 18 October 2002 (2002-10-18) abstract	1
A	PATENT ABSTRACTS OF JAPAN vol. 005, no. 127 (M-083), 15 August 1981 (1981-08-15) & JP 56 064195 A (JEOL LTD), 1 June 1981 (1981-06-01) abstract	1
A	US 5 090 746 A (HOLZHAUSEN ET AL) / 25 February 1992 (1992-02-25) abstract	1-31
A	DE 78 05 710 U1 (INDUSTRIE-WERKE KARLSRUHE AUGSBURG AG, 7500 KARLSRUHE, DE) 10 December 1981 (1981-12-10) figure 1	1-31
A	US 3 985 378 A (MULLER ET AL) / 12 October 1976 (1976-10-12) figures	1-31

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-17,19-31

A vibration damper for inhibiting transfer of vibrations to an apparatus during the evacuation thereof by a pump, the damper comprising a bellows arrangement, wherein the damper is axially pre-compressed.

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2. claim: 18

A vibration damper for inhibiting transfer of vibrations to an apparatus during the evacuation thereof by a pump, the damper comprising a bellows arrangement, wherein the damper comprises resistive means arranged about an axis and under tension in such a way that when damper is subjected to an external axial force tending to compress the bellows arrangement, the resistive means is subjected to a tensile force.

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